

Superfund Records Center

SITE: Transformer Disposal Area

BREAK: 2.2

OTHER: 665258

**REMOVAL PROGRAM
PRELIMINARY ASSESSMENT/
SITE INVESTIGATION
FOR
TRANSFORMER DISPOSAL AREA
WEST GREENWICH/COVENTRY, RI**

Prepared For:

U.S. Environmental Protection Agency
Emergency Planning and Response Branch
60 Westview Street
Lexington, MA 02173

CONTRACT NO. 68-WO-0036

TDD NO. 01-9308-19

PCS NO. 4430

DC NO. 02279

Prepared By:

ROY F. WESTON, INC.
Technical Assistance Team
Region I

September 1993



SEMS DocID 665258

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I. Preliminary Assessment/Site Investigation Forms



**EPA REGION I
REMOVAL PRELIMINARY ASSESSMENT**

Site Name and Location

Name:Transformer Disposal Area

Town:West Greenwich/Coventry County:**Kent** **State:**Rhode Island

Site Status: ☐ NPL ☐ NON-NPL ☐ RCRA ☐ TSCA
 ☐ ACTIVE ☐ ABANDONED ☒ OTHER

☒ Attached USGS Map of Location

☒ CERCLIS Site I.D. #:RID987492618

Comments: PCB Transformer oil allegedly dumped in undeveloped, wooded area.

Referral

☐ Citizen ☐ City/Town ☒ State ☐ Preremedial
☐ RCRA ☐ Other:

Name of referring party: Margarita Chatterton **Phone:**(401)277-2797

Address:Rhode Island Department of Environmental Management
Division of Air and Hazardous Materials (RI DEM/DAHM), 291
Promenade Street, Providence, RI 02908

Contacts Identified

1)Margarita Chatterton-RI DEM **Phone:**(401)277-2797
2)Timothy O'Connor-RI DEM **Phone:**(401)277-2797

Source of Information

☒ **Verbal:**SI Stanton-Teleconferences with RI DEM personnel

☒ **Report:**Preliminary Assessment of Transformer Disposal Area,
West Greenwich, RI, (July 1993) Rhode Island Department of
Environmental Management.

Potential Responsible Parties

Land Owner: Recoll Management Corp./ Frederick E. Bowerman
(deceased), Plat 5, Lot 8, Coventry, and Plat 1 Lot 3.1, West
Greenwich

Executor of Will: Deborah Brennan

Phone:(401)294-3175

Address:2800 Tower Hill Road, Saunderstown, RI

Land Owner: Mary B. & Mary Elizabeth Barton, Plat 1, Lot 2, West
Greenwich, and Plat 5 Lot 9, Coventry.

Phone:(401)884-4274

Address:102 Spring Street East Greenwich, RI

REMOVAL PRELIMINARY ASSESSMENT

Land Owner: BW Manufacturing, Inc. Plat 5, Lot 10, Coventry
Phone: (401) 392-1200
Address: 40 Technology Way, West Greenwich, RI

Site Access

Authorizing Person: 1) Mary Barton; 2) Deborah Brennan; 3) Rich Austin (Environmental Manager, BW)
Date: 1) 08/27/93; 2) 09/01/93; 3) 09/01/93
Phone: 1) (401) 884-4274; 2) (401) 294-3175; 3) (401) 392-1200 x213
☒ (X) Obtained ☒ (X) Verbal
☐ () Not Obtained ☐ () Written

Physical Site Characterization

Background Information:

The area of concern consists of five lots, three located in Coventry and two located in West Greenwich, Rhode Island. The total area of the lots is approximately 57 acres. Three transformer carcasses had been disposed of illegally on three different areas of the properties. The transformers were removed on 25 February 1992, and polychlorinated biphenyl (PCB) contaminated soil was excavated in two areas, and backfilled with clean soil. This project was completed by Clean Harbors, Inc., under the direction of the Rhode Island Department of Environmental Management (RI DEM). Samples of the removed soil and of the remaining soil were taken before the areas were covered with plastic liners. In addition to the three carcass disposal areas, RI DEM believes that two additional areas may have been affected by dumping activities.

Description of Substances Possibly Present, Known or Alleged:

The laboratory results from Alpha Analytical indicated that in both excavated areas PCB contamination remained in the surrounding soils. Area one in particular showed high levels of residual PCB contamination. During a site visit on 12 May 1993, RI DEM personnel reported that they noted a chemical odor in the vicinity of area one. The Rhode Island Department of Environmental Management contacted EPA's Emergency Planning and Response Branch to request assistance.

REMOVAL PRELIMINARY ASSESSMENT

Existing Analytical Data

(Identify source, date and methodology)

() Real-Time Monitoring Data:

(X) Sampling Data: See page 4 of the RI DEM Preliminary Assessment Report.

Potential Threat

Description of potential hazards to environment and/or population -identify any of the criteria for a Removal Action (from NCP) that may be met by the site under 40 CFR 300.415 [b] [2].

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
- iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.
- v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.
- vii. The availability of other appropriate federal or state response mechanisms to respond to the release.
- viii. Other situations or factors that may pose threats to public health or welfare or the environment.

Prior Response Activities

() PRP (X) STATE () FEDERAL () OTHER

Brief Description:

Following a report of improper disposal of three transformers and their contents, RI DEM responded, removing three transformers and excavating soils from areas one and two in February and March, 1992. Subsequent sampling and laboratory analyses from Alpha Analytical indicated that PCB contamination was still present after the soil removal, in areas one and two.

Priority for Site Investigation

(X) High () Medium () Low () None

REMOVAL PRELIMINARY ASSESSMENT

Report Generation

Originator: Zoe Conlon

Affiliation: Roy F. Weston, Inc. (TAT)

TDD#: 01-9308-19

Date: 09/10/93

Phone: (617) 229-6430

PCS#: 4430



**EPA REGION I
REMOVAL SITE INVESTIGATION**

Inspection Information

Site Name:Transformer Disposal Site
Town:West Greenwich/Coventry County:Kent State:RI
Date of Inspection:09/03/93 Time of Inspection:0900-1700
Weather Conditions:Partly Sunny/ 80° F
Site Status at Time of Inspection: () ACTIVE (X) INACTIVE
Comments:Previous action by the RI DEM involved transformer removal
and soil excavation. Residual PCB contamination present in surface
soils.

Agencies/Personnel Performing Inspection

	<u>Names</u>	<u>Program</u>
(X) EPA	: Mary Ellen Stanton (Site Investigator) Scott Clifford (Field Chemist)	Emergency Planning and Response Branch Technical Support Branch
(X) EPA Contractor:	Zoe Conlon Edward Coffey	Technical Assistance Team Technical Assistance Team
(X) State :	Margarita Chatterton	RI DEM Division of Air and Hazardous Materials
() Other :		

Current Owner Based on Field Interview:

Physical Site Characteristics

Provide site schematic - see site diagram

<u>Parameter</u>	<u>Quantities/Extent</u>
() Cylinders:	
() Drums:	
() Lagoons:	
() Tanks: () Above:	
() Below:	
() Asbestos:	
() Piles:	
(X) Stained Soil:Soil dark in color in area one	
() Sheens:	
() Stressed Vegetation:	
() Landfill:	
(X) Population in Vicinity:The closest resident is 2250 feet from the site.	
() Wells: () Drinking:	
() Monitoring:	
(X) Other: Chemical odor characteristic of PCB oil contamination emitted from soil in area one.	

REMOVAL SITE INVESTIGATION

Physical Site Observations

Comments: The site consists of a sand pit area, adjacent to wooded land. Debris such as tires, cans, metal scraps, and shingles were noted throughout the sand pits and the wooded area. Areas one, two, and three were located in the wooded area, and areas four and five were located in the sand pit area. (See map for detailed description.)

Field Sampling and Analysis

Matrix	Analytical Parameter	Field Instrumentation		
		CGI/O,	RAD	PID
Background Readings:		0% LEL/ 20.9%	7-12mR/hr	0-1 units
Air:		BG	BG	BG
Soil(Surface):		BG	BG	BG

Twenty-five surface soil samples were screened for PCBs utilizing a Gas Chromatograph/Electron Capture Detector. Results ranged from undetected (less than 10ppm) to 130,000 ppm. See Appendix F for screening results.

Field Quality Control Procedures

(X) SOP Followed	() Deviation From SOP
Comments:	

Description of Sampling Conducted

Surface soil sampling (0-3' depth) was conducted in five separate areas on the site. Initially, samples designated for PCB screening were collected. Twenty-five screening samples were analyzed on-site. Once the screening was complete and levels of contamination determined, samples were selected for laboratory analyses. A total of ten soil samples collected from area one were sent to the New England Regional Laboratory (NERL) for extractable base/neutral and acids (BNA), and PCB analyses.

REMOVAL SITE INVESTIGATION

Analyses

Analytical Parameter	Media	Laboratory
() VOA	() AIR	(X) NERL
(X) PCB	() WATER	() CLP
() PESTICIDE	(X) SOIL	() PRIVATE
() METALS	() SOURCE	() SAS
() CYANIDE	() SEDIMENT	() SOW
(X) SEMI VOA (BNA)		
() TOXICITY		
() DIOXIN		
() ASBESTOS		
() OTHER		

Field screening results: see Appendix **

Receptors

Comments

- () Drinking Water (X) Private: There are private wells within one mile of the site.
(X) Municipal: Three municipal wells are located within two miles of the site.
- () Ground Water:
(X) Unrestricted Access: There are a number of dirt roads accessing the land to the public. The properties are not fenced.
(X) Population in Proximity: The closest residence is 2250 feet from the site.
() Sensitive Ecosystem:
() Other:

Additional Procedures for Site Determination

- () Biological Evaluation () ATSDR
To be determined by Site Investigator.

Site Determination

Depending on further information, criteria that may be met by the site include 40 CFR 300.415 [b] [2], parts:

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.

REMOVAL SITE INVESTIGATION

- iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.
- v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.
- vii. The availability of other appropriate federal or state response mechanisms to respond to the release.
- viii. Other situations or factors that may pose threats to public health or welfare or the environment.

Report Generation

Originator: Zoe L. Conlon
Affiliation: Roy F. Weston/TAT
TDD#: 01-9308-19

Date: 09/10/93
Phone: (617) 229-6430
PCS#: 4430

II. Appendices

APPENDIX A

Site Location Map (Figure 1)

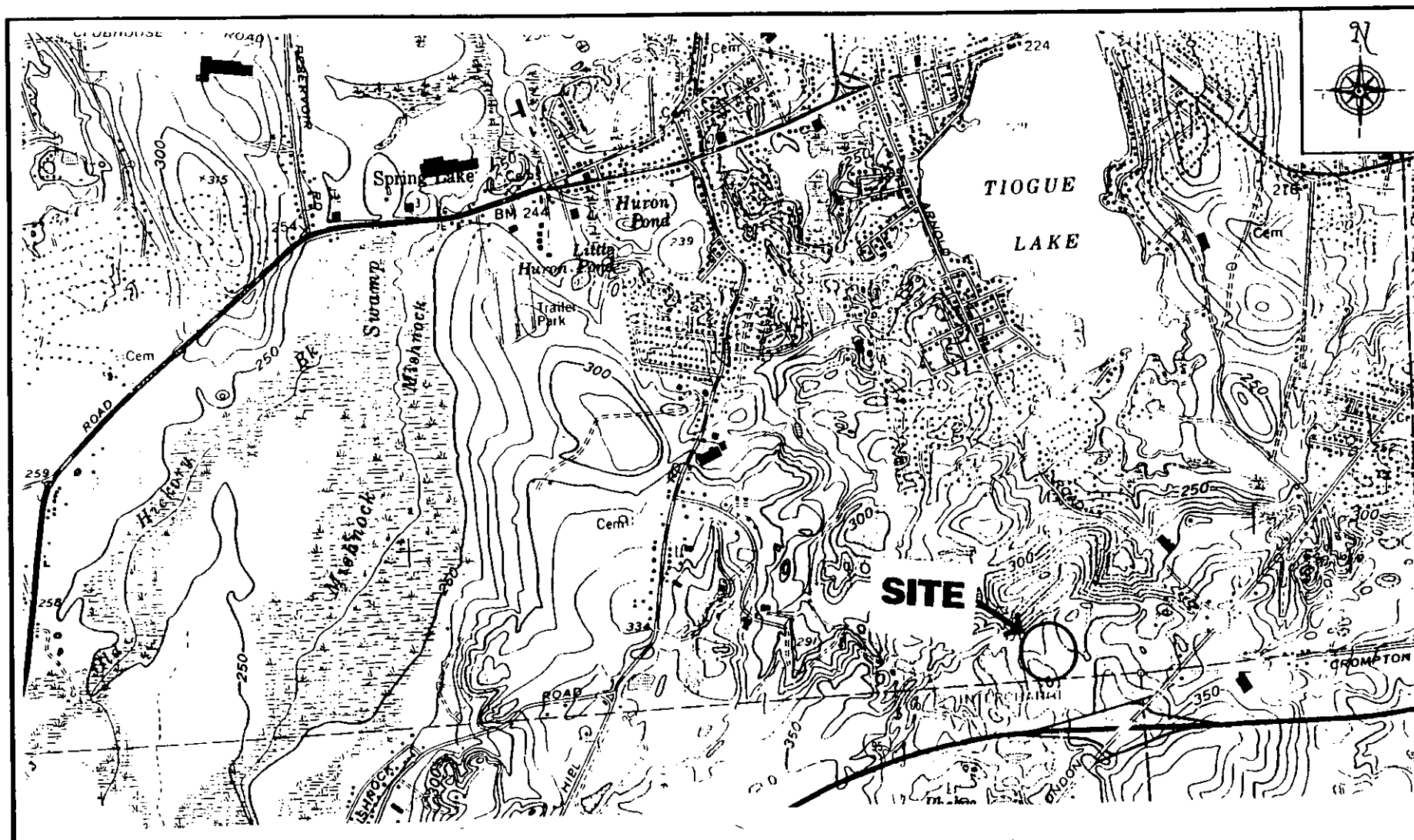


FIGURE 1
SITE LOCATION MAP
TRANSFORMER DISPOSAL AREA
COVENTRY/W. GREENWICH RI

SOURCE: USGS 7.5 MIN. SERIES QUADRANGLE; NORWOOD, MA, 1985 AND MEDFIELD, MA, 1987.

WESTON
 MANAGERS DESIGNERS/CONSULTANTS

REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY Z CONLON	DATE 8/93	PCS # 4430
APPROVED BY	DATE 8/93	TDD # 01-8308-20

APPENDIX B

Site Diagram (Figure 2)

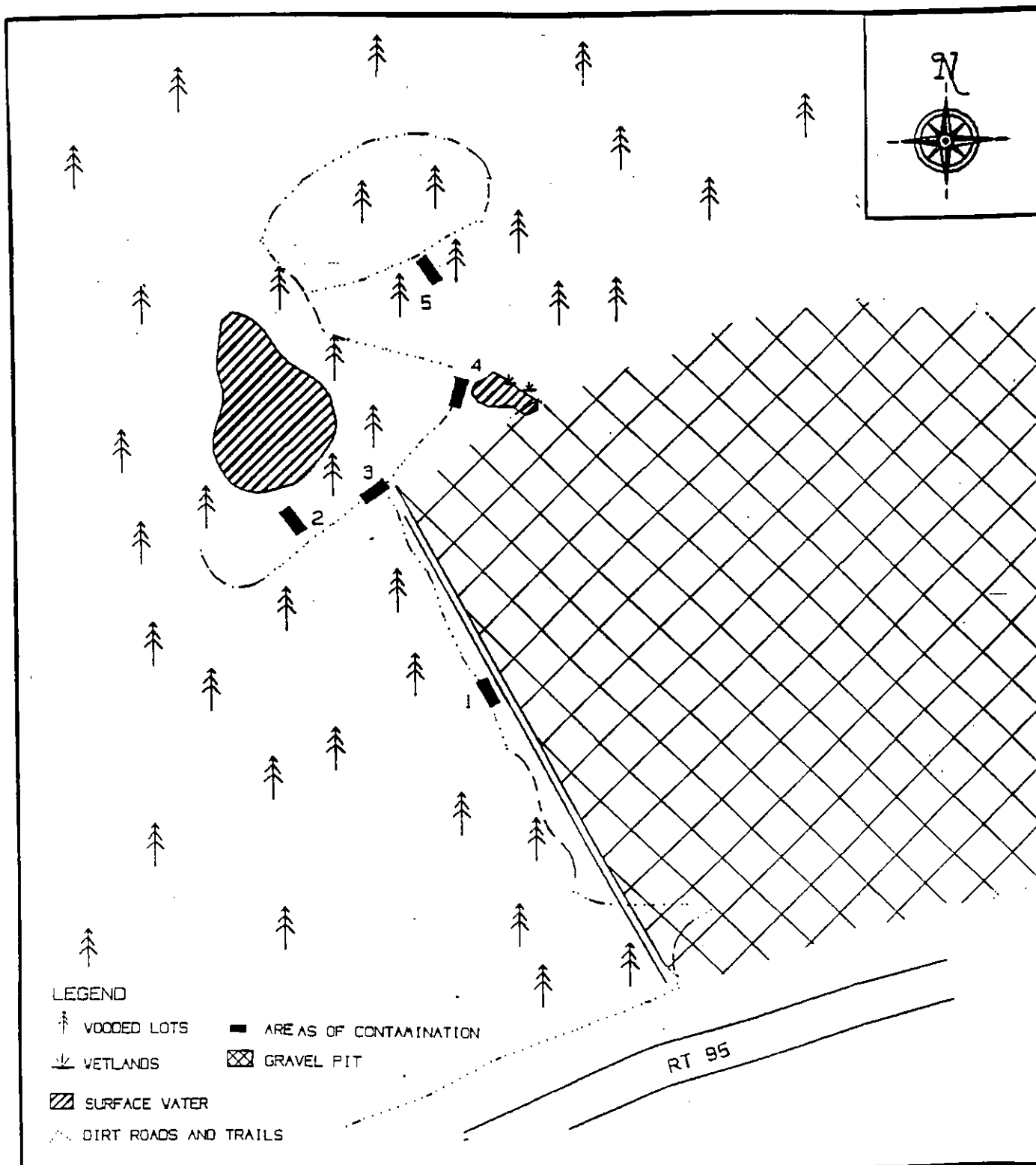


FIGURE 2
SITE DIAGRAM
TRANSFORMER DISPOSAL AREA
COVENTRY/W. GREENWICH RI

SOURCE: RIDEM/DIV OF SITE REMEDIATION

NOT TO SCALE

WESTON
 MANAGERS DESIGNERS/CONSULTANTS
 REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY
 Z. CONLON

DATE
 9/93

PCS #
 4430

APPROVED BY
 [Signature]

DATE
 9/93

TDD #
 01-6308-20

APPENDIX C

Health and Safety Plan

ROY F. WESTON, INC.
TECHNICAL ASSISTANCE TEAM
REGION I
HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE/SITE INVESTIGATION

TDD No. 01-9308-19 PCS No. 4430 Site Name: Transformer Disposal Area
Site Address: Street No. _____
City West Greenwich/ Coventry
County/State Kent County, Rhode Island
Site Contact/Phone No.: Margarita Chatterton, RI DEM

Directions to Site: (Att. Map) 95 South into Rhode Island. Follow 95 to exit 7. Take Exit 7 off of 95. Take a right at end of exit onto New London Turnpike. Make a left onto Arnold Road. Site is on the left. The site is between exits 6 and 7 north of 95.

Historical/Current Site Information: The site consists of five areas where transformers and associated electrical wastes had been disposed of for several years. In February 1992, Rhode Island Department of Environmental Management (RIDEM) responded to a report of three improperly disposed transformers possibly containing PCB contaminated oil. These transformers were removed from the site. In March 1992, RIDEM removed contaminated soil from two areas. Three of the areas of concern have not been investigated.

Incident Type: () Air Release - _____
(X) Spill - leaking transformers containing PCB oil
() Fire - _____
(X) HW Site - improperly stored transformers and other wastes

Location Class: () Industrial (X) Commercial (X) Urban/Residential (X) Rural

USEPA Contact: SI Mary Ellen Stanton Date of Initial Site Activities: 09 / 02 / 93
Original HASP: YES X Modification Number: N/A
Lead TAT: Zoe Conlon Site Health & Safety Coordinator: Ed Coffey

Response Activities/Duration (fill in as applicable)	Duration
<i>Emergency Response:</i>	
() Perimeter Recon.:	_____
() Site Entry:	_____
() Visual Documentation:	_____
() Multi-media Sampling:	_____
() Decontamination:	_____
 <i>Assessment:</i>	
(X) Perimeter Recon.	<u>1 Hr</u>
(X) Site Entry	<u>4 Hrs</u>
(X) Visual Documentation:	<u>0.5 Hrs</u>
(X) Multi-media Sampling:	<u>3 Hrs</u>
(X) Decontamination:	<u>0.5 Hrs</u>

Physical Safety Hazards to Personnel

- ☒ Heat ☐ Cold ☐ Precipitation ☐ Confined Space ☒ Terrain
- ☒ Walking/Working Surfaces ☐ Fire & Explosion ☐ Oxygen Deficiency
- ☐ Underground Utilities ☐ Overhead Utilities ☐ Heavy Equipment
- ☒ Unknowns in Drums, Tanks, Containers ☒ Ponds, Lagoons, Impoundments
- ☒ Rivers, Streams ☐ Pressurized Containers, Systems ☐ Noise
- ☐ Illumination ☐ Nonionizing ☐ Ionizing Radiation

Biological Hazards to Personnel

- ☐ Infectious/Medical/Hospital Waste ☒ Non-domesticated Animals
- ☒ Insects ☒ Poisonous Plants/Vegetation ☐ Raw Sewage

Training Requirements

- ☒ 40 Hour General Site Worker Course with three days supervised experience.
- ☐ 24 Hour Course for limited, specific tasks with one day supervised experience.
- ☐ 24 Hour Course for Level D Site with one day supervised experience.
- ☒ 8 Hour Annual Refresher Health and Safety Training.
- ☒ 8 Hour Management/Supervisor Training in addition to basic training course.
- ☐ Site Specific Health and Safety Training.
- ☐ Pre-entry training for emergency response skilled support personnel.

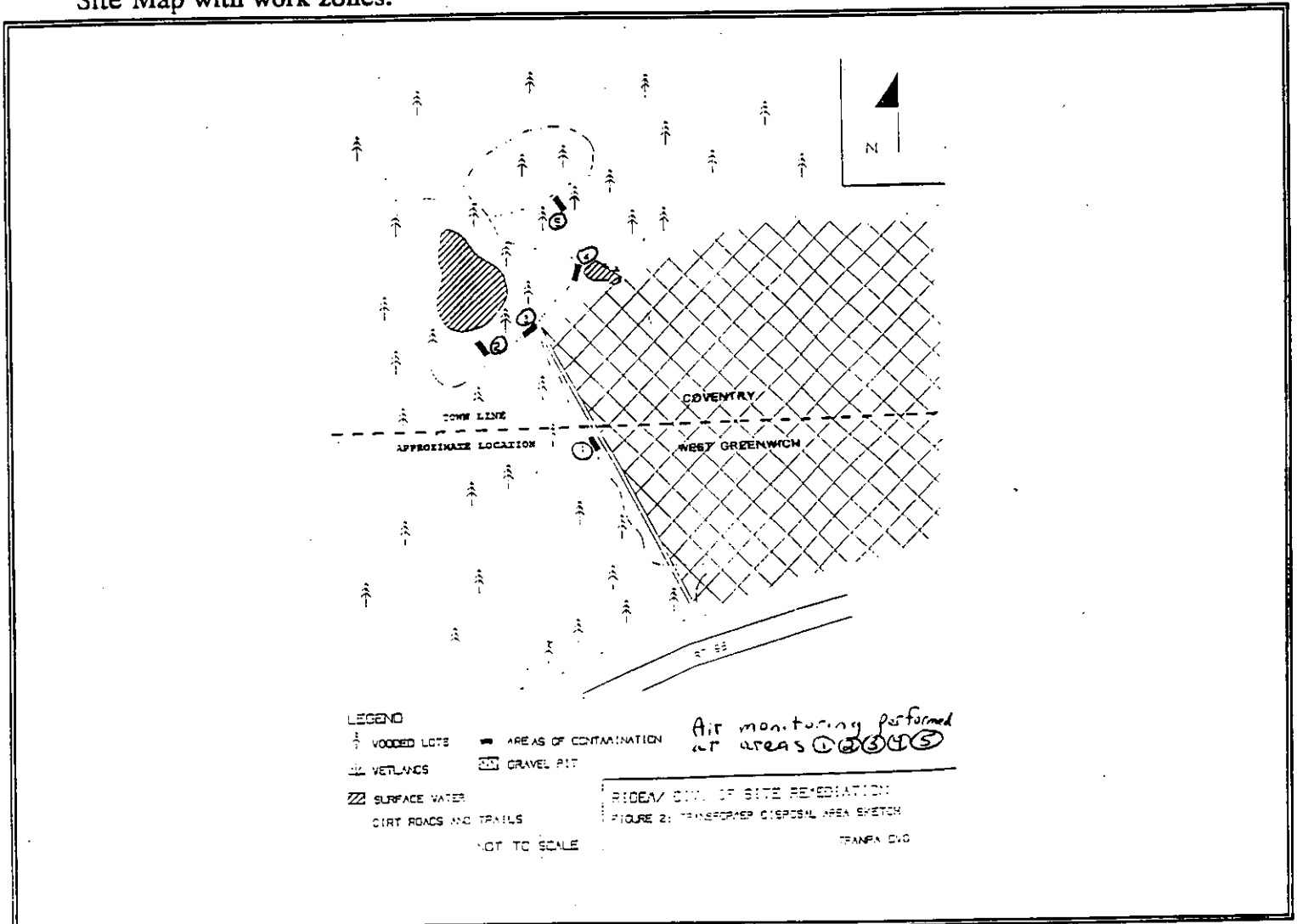
Medical Surveillance Requirements

- ☒ Baseline initial physical examination with physician certification.
- ☒ Annual medical examination with physician certification.
- ☐ Site Specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals).
- ☐ Asbestos Worker medical protocol.
- ☐ Exempt from medical surveillance: _____
- ☒ Examination required in event of chemical exposure or trauma.

Physical Parameters	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant
	Polychlorinated biphenyls (PCBs)			
Exposure Limits IDLH Level	___ ppm <u>0.5</u> mg/m ³ PEL ___ ppm ___ mg/m ³ TLV ___ ppm <u>5</u> mg/m ³ IDLH	___ ppm ___ mg/m ³ PEL ___ ppm ___ mg/m ³ TLV ___ ppm ___ mg/m ³ IDLH	___ ppm ___ mg/m ³ PEL ___ ppm ___ mg/m ³ TLV ___ ppm ___ mg/m ³ IDLH	___ ppm ___ mg/m ³ PEL ___ ppm ___ mg/m ³ TLV ___ ppm ___ mg/m ³ IDLH
Physical Form Solid-Liquid-Gas Color	___ Solid <u>X</u> Liquid ___ Gas <u>X</u> Color Pale yellow	___ Solid ___ Liquid ___ Gas ___ Color	___ Solid ___ Liquid ___ Gas ___ Color	___ Solid ___ Liquid ___ Gas ___ Color
Odor	Mild Hydrocarbon			
Flash Point Flammable Limits	<u>432</u> Degrees F <u>N/A</u> % UEL <u>N/A</u> % LEL	___ Degrees F or C ___ % UEL ___ % LEL	___ Degrees F or C ___ % UEL ___ LEL	___ Degrees F or C ___ % UEL ___ LEL
Vapor Pressure Vapor Density	<u>0.00006</u> mm/Hg <u>n/a</u> Air = 1	___ mm/Hg ___ Air = 1	___ mm/Hg ___ Air = 1	___ mm/Hg ___ Air = 1
Specific Gravity	<u>1.495</u> Water = 1	___ Water = 1	___ Water = 1	___ Water = 1
Solubility	Insoluble			
Incompatible Materials	Strong oxidizers			
Route of Exposure	<u>X</u> Inh <u>X</u> Abs <u>X</u> Con <u>X</u> Ing	___ Inh ___ Abs ___ Con ___ Ing	___ Inh ___ Abs ___ Con ___ Ing	___ Inh ___ Abs ___ Con ___ Ing
Symptoms of Acute Exposure	Irritates eyes, skin; dermatitis; dark urine			
First Aid Treatment	Eyes: irrigate Skin: soap wash Breath: artificial resp. Swallow: medical attn.			
Ion Potential	___ <u>N/A</u> eV	___ eV	___ eV	___ eV
Instruments for Detection	___ PID w/ ___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other <u>GC/ECD</u> Chlor-n-soil kit	___ PID w/ ___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other _____	___ PID w/ ___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other _____	___ PID w/ ___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ Ph Other _____

Site Control Measures

Site Map with work zones:



Decontamination Procedures

- () Wet Decontamination - using: _____
 (X) Dry Decontamination

Description of Site Specific Decontamination Plan:

Dry decontamination practices will be utilized. A soap and water/water rinse will be available if necessary.

Adequacy of decontamination determined by: Visual observation

Personal Protective Equipment

TASKS TO BE PERFORMED/AIR MONITORING REQUIRED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
Site walkover (1,2,3)	D	cotton coveralls	leather gloves	N/A
Soil sampling (1,2,3)	C	Tyvek coveralls	Nitrile/surgical Nitrile Latex bootcover	GMC-H

Frequency and Types of Air Monitoring: (X) Continuous () Routine - _____ () Periodic - _____

DIRECT READING INSTRUMENTS	COMBUSTIBLE GAS/OXYGEN METER (1)	RADIATION SURVEY METER/PROBE (2) Model 3/Gm	PHOTOIONIZATION DETECTOR/PROBE (3) Probe: 10.2 eV	FLAME IONIZATION DETECTOR (4)	CHEMICAL DETECTOR TUBE (5)
ID NUMBER	TAT #4	TAT #4	TAT #1	N/A	N/A
CAL. DATE	09/02/93	09/02/93	09/02/93	N/A	N/A
TAT MEMBER	Coffey	Coffey	Coffey	N/A	N/A
ACTION LEVEL	≥ 20% LEL ≤ 19.5%, ≥ 23% O ₂ - LEAVE	3X BACKGRND- CAUTION; 1 MR/HR- LEAVE	UNKNOWN 0-5 UNITS: "C" 5-500: "B"	UNKNOWN 0-5 UNITS: "C" 5-500: "B"	PEL/TLV COMPARE W/PF

Emergency Phone Numbers (all contacts must be notified)

Emergency Contact	Location	Phone Number	Notified
Hospital	Kent County Hospital 455 Tollgate Road Warwick, RI	(401) 737-7000	Yes
Ambulance	West Greenwich	(401) 397-3388	Yes
Police	West Greenwich	(401) 397-7191	Yes
Fire Dept.	West Greenwich	(401) 397-3388	Yes

Chemical Trauma Capability? (X) Yes () No If no, closest backup: _____ Phone: _____

Directions to hospital (attach map) - Route verified by: _____ Date: __/__/__
Return to 95 north. Follow 95 North to Exit 10. Take a right at the end of the ramp for exit 10 onto Centerville Road. Follow to Toll Gate Road. Take a left onto Toll Gate Road Kent County Hospital is on the Right (north) at 455 Toll Gate Road.

Additional Emergency Phone Contacts

Contact	Phone Number
WESTON 24 hr. Hotline	215-524-1925, 215-524-1926
WESTON Medical Emergency Service	800-229-3674 (EMR)
Chemtrec	800-424-9300
ATSDR	404-639-0615
ATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-942-5969
Region I TAT Office	617-229-6430

HASP Prepared by: Ed Coffey Date: 09/01/93
Pre-Response/Entry Approval by: George W. Davis Date: 7/1/93
Verbal Approval/ Modification to Original HASP by: _____ Date: / /

Final HASP to be submitted to RSO on the day following completion of activities.

Physical Description of Site and Response Activities

Size of Site: 57 acres Terrain: Gravel Pit, Woods Weather: Partly Sunny
 Distance to Nearest: Residence: 2250 ft School: NA Hospital: 7 Miles
 Public Building: 1000 ft Monitoring Well: 0.25 Miles
 Evacuation: () Yes (X) No By Whom: _____
 Nearest Waterway: Unnamed stream, flows into Tiogue Lake, North of Site Distance from Site: 0.25 mile

Condition	Observed	Potential	None	Comments/Observations*
Surface Water Contamination		X		Water may come in contact with contaminated soil.
Ground Water Contamination		X		Leaking may occur.
Drinking Water Contamination		X		Private wells are located nearby.
Air Release			X	
Soil Contamination	X			Strong chemical odor noted, high level of PCB's detected.
Stressed Vegetation			X	
Dead Animal Species			X	

* Comment required for observed or potential.

Actions Taken On-Site:

Perimeter Monitoring: (X) Yes () No
 Site Entry by TAT: (X) Yes () No

Tasks Conducted	Level of Protection/Specific PPE Used
Perimeter air monitoring	D/Cotton overalls, leather gloves, surgical nitrile, nitrile gloves
On-site air monitoring	C/Tyvek coveralls, latex bootcovers, GMC-H cartridge
Soil sampling	C/Tyvek coveralls, latex bootcovers, GMC-H cartridge

Air Monitoring Summary Log

Date: 09/02/93

Data Collected by: Z. Conlon

Data to be summarized by a "Range of readings, i.e., - Low to High" and/or "Average" by location.

Station/Location	CGI/O ₂ Meter	Radiation Meter	PID/Probe Probe: 10.2	FID/OVA	Detector Tube
Background	0% LEL 20.8% O ₂	0.03mR/h	0-1 unit		
Area #1	0% LEL 20.8% O ₂	0.03mR/h	0.2 units		
Area #2	0%LEL 20.8% O ₂	0.03mR/h	0.2 units		
Area #3	0% LEL 20.8% O ₂	0.03mR/h	0.2 units		
Area #4	0% LEL 20.8% O ₂	0.03mR/h	0.2 units		

Summary/Comments: No elevated readings were recorded.

Hazardous Waste Site and Environmental Sampling Activities

Off Site: () Yes (X) No
 On Site: (X) Yes () No

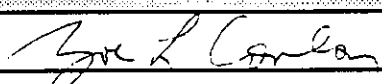
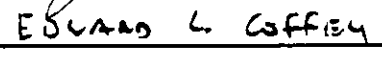
Description types of samples and methods used to obtain samples: Soil samples collected in level C PPE.


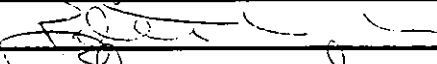
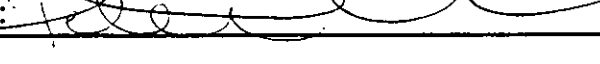
Was laboratory notified of potential hazard level of samples? (X) Yes () No () N/A

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as Attachments to this HASP as applicable: Emergency Response Plan, Confined Space Entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Technical Assistance Team (TAT) Contract 68-WO-0036 for Zone I. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have and understood the Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
Eric L. Conlon		Roy F. Weston/TAT	9/2/93
Edmund L. Coffey		" "	09/02/93

	Date
Final Submission of HASP by: 	9/17/93
Post Response Review by: 	9/17/93
Post Response Approval by: 	9/17/93
TAT HSO Review by:	

COMMENTS/FOLLOWUP

Eric L. Coffey was present and must sign this original plan whenever possible. Fern

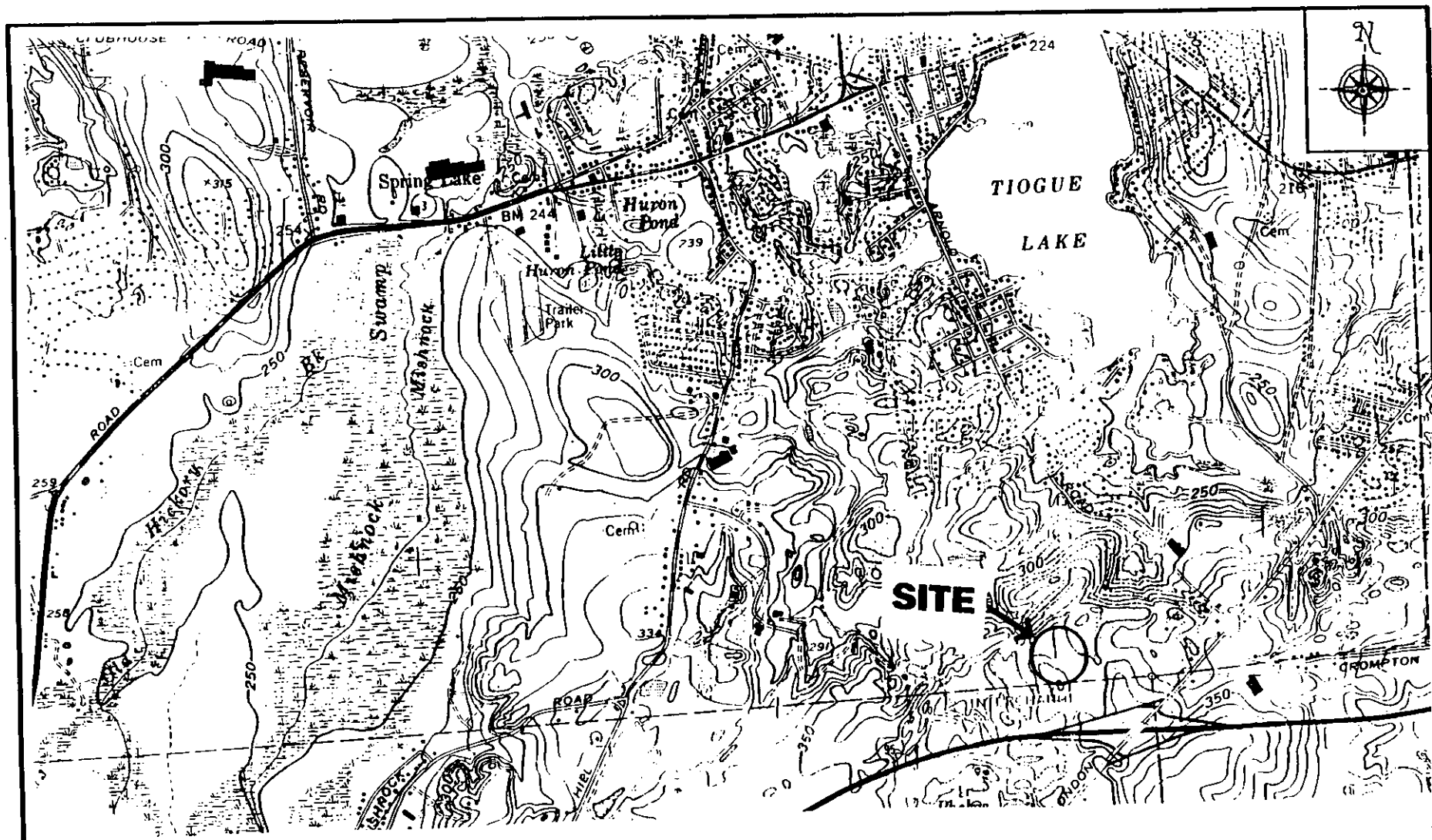


FIGURE 1
SITE LOCATION MAP
TRANSFORMER DISPOSAL AREA
COVENTRY/W. GREENWICH RI

SOURCE: USGS 7.5 MIN. SERIES QUADRANGLE; NORWOOD, MA, 1985 AND MEDFIELD, MA, 1987.

WESTON®
 MANAGERS DESIGNERS/CONSULTANTS

REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY Z. CONLON	DATE 8/93	PCS # 4430
APPROVED BY	DATE 8/93	TDD # 01-8308-20

APPENDIX D

Site Sampling QA/QC Plan

**TRANSFORMER DISPOSAL AREA
SAMPLING QUALITY ASSURANCE/
QUALITY CONTROL PLAN
WEST GREENWICH, RHODE ISLAND
2 SEPTEMBER 1993**

Prepared for:

U.S. Environmental Protection Agency
Region I
60 Westview Street
Lexington, MA 02173

CONTRACT NO. 68-W0-0036

TDD NO. 01-9308-19

PCS NO. 4430

DC NO. 02276

Prepared by:

ROY F. WESTON, INC.
Technical Assistance Team
Region I

September 1993

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LIST OF ATTACHMENTS

- I. Modifications**
- II. Chain-of-Custody Documentation**

1.0 Background

The transformer disposal area is located off of Route 95 between Exits 7 and 6A, in the towns of West Greenwich and Coventry, Rhode Island. The site consists of five areas where electrical transformer waste has been disposed. On 25 February 1993, the Rhode Island Department of Environmental Management (RIDEM) responded to a report of the improper disposal of three transformers. Three dump areas were located at this time. Analytical results indicated that PCBs were present in areas one and two. On 6 March 1992, RIDEM supervised Clean Harbors in the excavation of soil from the top 1 to 1.25 feet of soil from areas one and two. On 12 May 1993, RIDEM personnel noticed the presence of a chemical odor in the vicinity of area one. At this time evidence of burned transformer parts were noticed in areas three and four. This information was obtained from the Rhode Island Department of Environmental Management report dated July 1993, *Preliminary Assessment of Transformer Disposal Area, West Greenwich, Rhode Island, RID987492618*.

2.0 Objectives

The objective of this sampling survey is to obtain sufficient analytical data from a representative number of samples which could be used to determine whether further actions at the site by the EPA, Region I, Emergency Planning and Response Branch (EPRB) are necessary.

3.0 Deliverables

In addition to this sampling QA/QC plan, a preliminary assessment/site investigation (PA/SI) report will be generated by Roy F. Weston, Inc., Technical Assistance Team (TAT) documenting project activities at the site. Any modifications to the practices described in this sampling QA/QC plan will be documented in Attachment I to this report when the sampling is completed and the report is finalized. A copy of the chain-of-custody documentation will be included in Attachment II. A Site Diagram and a Sample Location Diagram will be illustrated as Figures 2 and 3, respectively.

4.0 Quality Assurance Levels

The quality assurance (QA) level for the on-site screening activities will be QA1. The QA levels are described in OSWER Directive 9360.4-01 (April 1990-Interim Final), *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures, EPA/540/G-90/004*. These activities included the use of the following instrumentation/test equipment:

Photoionization Detector-Model PI-101 or ISPI - 101 by HNU Systems, Inc.
Combustible Gas Indicator/Oxygen Meter-Model 260 or Microgard by MSA
Radiation Meter-Model 490 by Victoreen or Model 3 by Ludlum

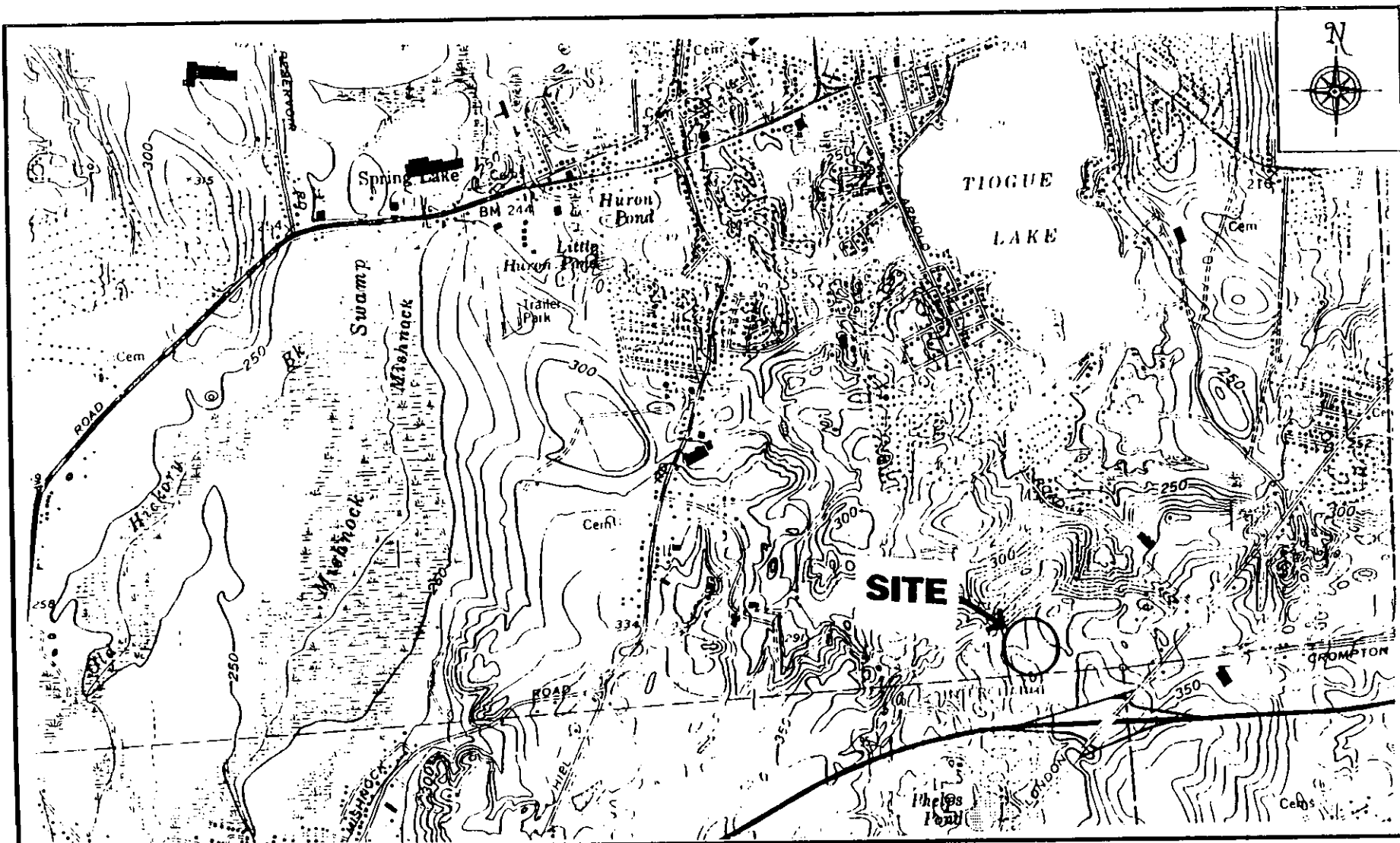


FIGURE 1
SITE LOCATION MAP
TRANSFORMER DISPOSAL AREA
COVENTRY/W. GREENWICH RI

SOURCE: USGS 7.5 MIN. SERIES, 1975, CROMPTON QUADRANGLE, RHODE ISLAND.

WESTON[®]
 MANAGERS DESIGNERS/CONSULTANTS
 REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY Z. CONLON	DATE 9/93	PCS # 4430
APPROVED BY <i>[Signature]</i>	DATE 9/93	TDD # 01-9308-20

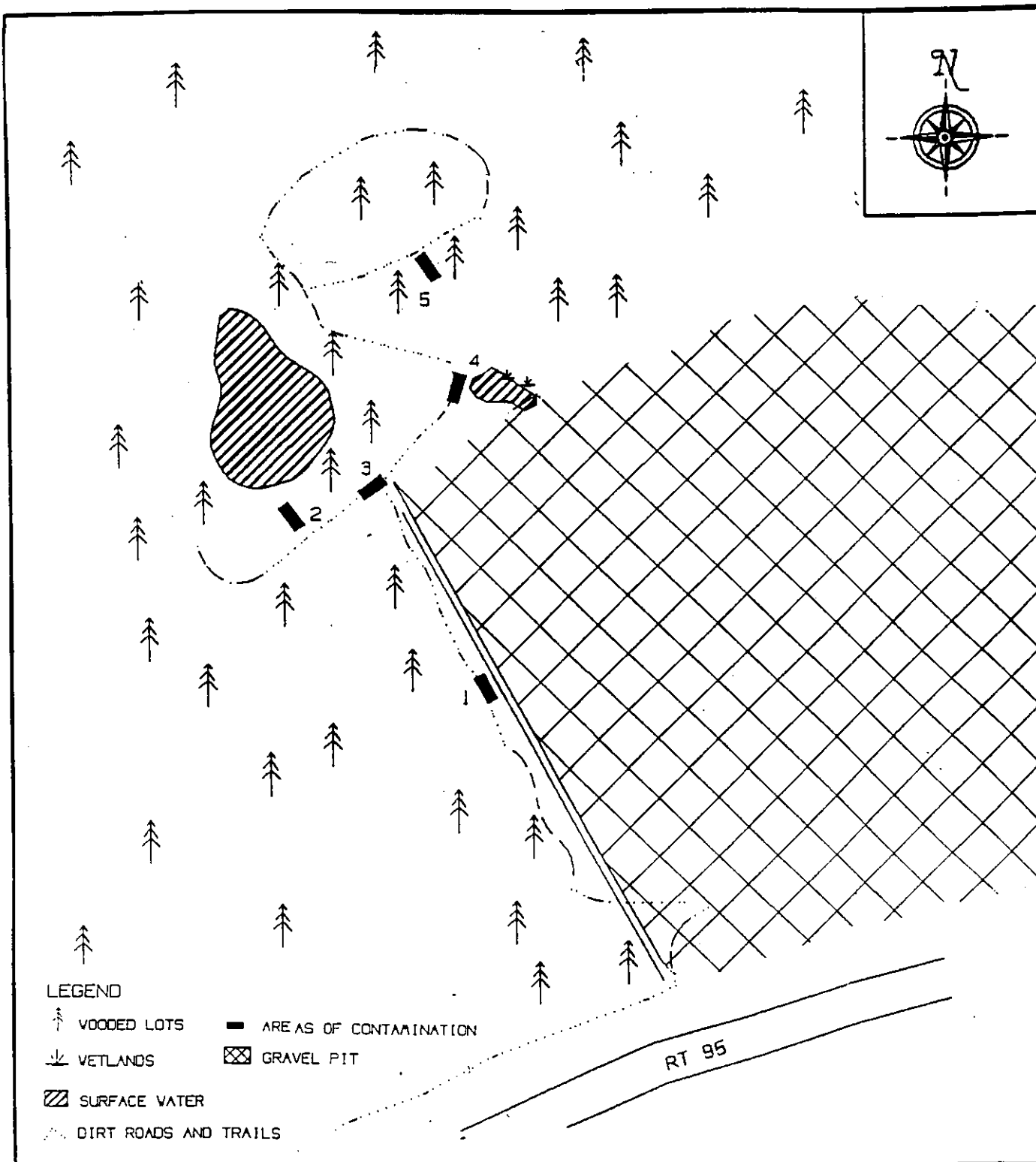


FIGURE 2
SITE DIAGRAM
TRANSFORMER DISPOSAL AREA
COVENTRY/W.GREENWICH RI

SOURCE: RIDEM/DIV OF SITE REMEDIATION

NOT TO SCALE

WESTON
 MANAGERS DESIGNERS/CONSULTANTS
 REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY
 Z. CONLON

DATE
 9/93

PCS #
 4430

APPROVED BY

DATE
 9/93

TDD #
 01-6308-20

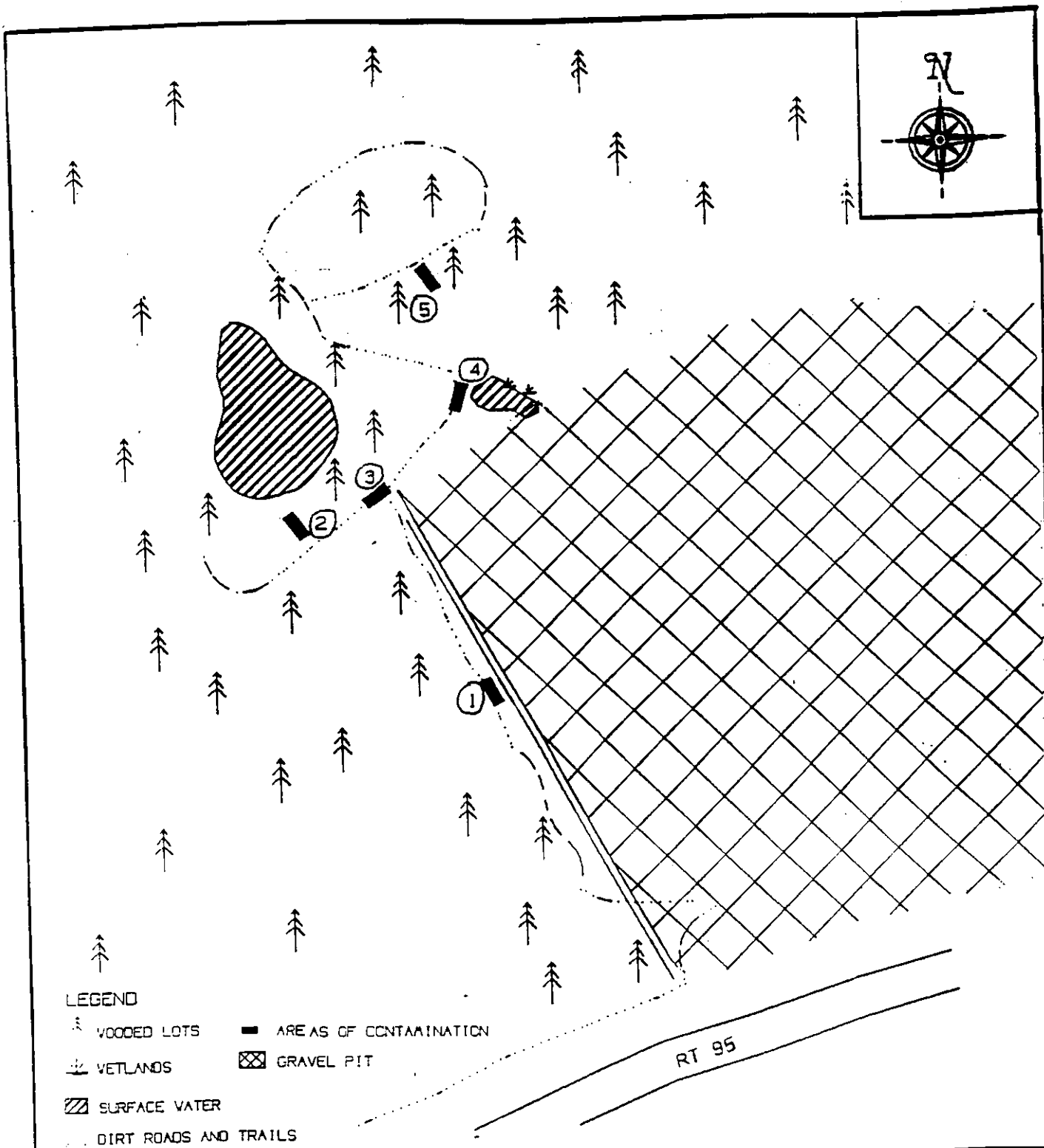


FIGURE 3
SAMPLE LOCATION DIAGRAM
TRANSFORMER DISPOSAL AREA
COVENTRY/W. GREENWICH RI.

SOURCE: RIDEM/DIV OF SITE REMEDIATION

NOT TO SCALE

WESTON
 MANAGERS DESIGNERS/CONSULTANTS
 REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY
 Z. CONLON

DATE
 8/93

PCS #
 4480

APPROVED BY
 M

DATE
 9/93

TDD #
 01-6306-20

The samples will be analyzed at the EPA New England Regional Laboratory (NERL). Samples have been identified using an internal classification of Screening, Quick Turnaround, or EPA Standard Method, which refers to the method of analysis being performed at NERL. These methods are generally used for high, medium, and low levels of anticipated contamination, respectively. This classification system was instituted by EPRB and NERL on 25 June 1992.

The relative sampling protocols used to develop this sampling plan are described in a Roy F. Weston, Inc. draft inter-office memorandum, *Technical Assistance Team Sampling Protocols*, dated March 1992.

See Section 7.0 for quality assurance requirements.

5.0 Approach and Sampling Methodologies

The sampling survey will be conducted on 2 September 1993 as part of a PA/SI. Polychlorinated biphenyl field screening will be used to determine the location and number of samples to be collected. Wherever practical, samples will be collected from the least contaminated locations first. The samples will be containerized, preserved, and analyzed in accordance with Table 1. EPA chain-of-custody procedures will be utilized for all sampling activities. All contaminated sampling materials will be disposed of by NERL.

Up to ten samples will be collected from soil present at the site for, base/neutral and acid extractables (BNAs), and polychlorinated biphenyls analyses. All analyses will be mid-level, Quick Turnaround. All of the samples collected will be analyzed at NERL.

5.1 Soil Sampling

Surface Soil Samples: Collect samples from near-surface soil with tools such as spades, shovels and scoops. Surface material can be removed to the required depth with this equipment, then a stainless steel or plastic scoop can be used to collect the sample.

Follow these procedures to collect surface soil samples:

- Carefully remove the top layer of soil or debris to the desired sample depth with a pre-cleaned spade.
- Using a pre-cleaned, stainless steel scoop, plastic spoon, or trowel, remove and discard a thin layer of soil from the area which came in contact with the spade.

TABLE 1

TRANSFORMER DISPOSAL AREA, COVENTRY, RHODE ISLAND
SAMPLING SUMMARY, ANALYTICAL METHODS, AND QA/QC SAMPLES

MATRIX	#SAMPLES	ANALYTICAL PARAMETER	VOLUME	CONTAINER	PRESERVATIVE	METHOD	TRIP BLANKS
Soil	10	BNA	4 oz	Glass	Ice	8270	None
Soil	10	PCB	4 oz	Glass	Ice	8080	None

NOTE: Sampling equipment must be cleaned prior to any sampling unless the sampling equipment is dedicated to one sample location. See section 5.2 for decontamination procedures.

5.2 Sampling Equipment Decontamination

All sampling equipment other than dedicated tools must be "cleaned" prior to additional sampling events. The following decontamination procedures will be used:

- Soap and water wash.
- Water rinse.
- 10% nitric acid rinse.
- Deionized water rinse.
- Methanol rinse.
- Hexane rinse.
- Deionized water rinse.

The sampling equipment will be allowed to dry in between the methanol rinse and all subsequent steps. The decontamination rinsate will be collected and disposed of by NERL.

A rinsate blank will be collected in the field for each type of non-dedicated sampling equipment used. The rinsate blank will be collected by running organic-free water over or through each piece of sampling equipment to determine if the cleaning procedures were adequate.

6.0 Project Organization and Responsibilities

U.S. EPA EPRB:

MaryEllen Stanton	Site Investigator
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TAT Members:

Zoe Conlon	Sample Collection and Documentation/Quality Control Monitor
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Edward Coffey	Sample Collection and Documentation
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The quality control monitor will record quality assurance checks, any problems and corrective actions taken associated with the sampling and sampling plan. The quality control monitor will also responsible for completeness and accuracy of the chain-of-custody record.

7.0 Quality Assurance Requirements

7.1 Screening Quality Assurance

The on-site screening activities will employ the following QA1 level requirements: sample documentation; instrument calibration/performance check; and the determination of a detection limit, if appropriate.

7.2 Laboratory Quality Assurance

The samples designated for Quick Turnaround analyses are generally those samples anticipated to contain mid-levels of the pollutant analytes of interest. These samples will be analyzed to determine definitive identification and quantitation of contaminants. Protocols for Quick Turnaround analysis include multiple standards, and a laboratory blank.

8.0 Data Validation

A data quality review of the sample analyses will be conducted by NERL personnel according to *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures*, OSWER Directive 9360.4-01, April 1990 - Interim Final, EPA/540/G-90/004 or by NERL intralaboratory data review procedures.

QA level 1 data will be evaluated for calibration and detection limits, if appropriate.

9.0 References

Roy F. Weston, Inc., March 1992, *Technical Assistance Team Sampling Protocols (Draft)* Burlington, MA.

Rhode Island Department of Environmental Management, July 1993, Preliminary Assessment of Transformer Disposal Area, West Greenwich, Rhode Island, RID987492618.

Alpha Analytical Laboratories, Reported 02/28/92. *Certificate of Analysis for Initial Sampling of Transformer Disposal Area.*

Alpha Analytical Laboratories. Reported 03/19/92. *Certificate of Analysis for soil samples taken before and after partial removal of contaminated soils.*

U.S. Environmental Protection Agency, April 1990, *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures (Interim Final)*. Office of Emergency and Remedial Response, Washington, D.C. EPA/540/G-901004 (OSWER Directive 9360.4-01).

U.S. Geological Survey, 1984, South Norwalk, Connecticut Quadrangle. 7.5 minute series (Topographical).

ATTACHMENT I

Modifications

No modifications were made to the sampling plan, all SOPs were adhered to.

ATTACHMENT II

Chain-of-Custody Documentation

Office of Enforcement

CHAIN OF CUSTODY RECORD

93199

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		<div style="display: flex; justify-content: space-between;"> <div> <div>BUA - Quick Turnaround NERL</div> <div>PCB - Quick Turnaround NERL</div> </div> <div>REMARKS</div> </div>						
4430		TRANSFORMER DISPOSAL AREA W. GREENWICH, RI										
SAMPLERS: (Signature)												
<i>[Signature]</i>												
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION							
L01	9/2/93	1010		X	screen. loc. 01 (Area 1)	2	X	X				#78497 — SCREENING —
L02	9/2/93	1025		X	screen. loc. 04 (Area 1)	2	X	X				#78499 DETECTED
L03	9/2/93	1030		X	screen. loc. 05 (Area 1)	2	X	X				#78499 PCBs
L04	9/2/93	1430		X	screen. loc. 23 (Area 1)	2	X	X				#78500
L05	9/2/93	1440		X	screen. loc. 24 (Area 1)	2	X	X				#79995
L06	9/2/93	1445		X	screen. loc. 25 (Area 1)	2	X	X				#79996
L07	9/2/93	1450		X	screen. loc. 26 (Area 1)	2	X	X				#79951
L08	9/2/93	1455		X	screen. loc. 27 (Area 1)	2	X	X				#87930
L09	9/2/93	1500		X	screen. loc. 28 (Area 1)	2	X	X				#87931
						<div>— ALL SAMPLES TAKEN AT 0-2" DEPTH</div>						
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)		
<i>[Signature]</i>		9/3/93 0845		<i>[Signature]</i>								
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)		
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks				
				<i>[Signature]</i>		9/3/93 1085		m				

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1- 4824

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER OIL SPILL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, CONLOW, COFFEY

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>BNA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	<u> </u>

EPA R-1 7500-30

*Unpreserved Sample

LAB CODE **N0** 78497

PROJECT # - - 4430

STATION # - - - 201

Y Y M M D D

DATE 9 3 0 9 0 2

COLLECTION TIME 1 0 1 0

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY (micromhos/cm) ☐ . ☐

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER OIL SPILL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, CONLOW, COFFEY

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>BNA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	<u> </u>

LAB CODE **N0** 78498

PROJECT # - - 4430

STATION # - - - 202

Y Y M M D D

DATE 9 3 0 9 0 2

COLLECTION TIME 1 0 2 5

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY (micromhos/cm) ☐ . ☐

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, CONLON, COFFEY

FIELD OBSERVATIONS: CLEAR, OVERCAST RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>BNA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

EPA R-1 7500-30

*Unpreserved Sample

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, CONLON, COFFEY

FIELD OBSERVATIONS: CLEAR, OVERCAST RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>BNA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

LAB CODE NO 78500

PROJECT # -4430

STATION # - - - 404

Y Y M M D D

DATE 930902

COLLECTION TIME 1430

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

LAB CODE NO 78499

PROJECT # -4430

STATION # - - - 403

Y Y M M D D

DATE 930902

COLLECTION TIME 1030

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, COLBON, Goffey

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>3NA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

EPA R-1 7500-30

*Unpreserved Sample

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH, RI

COLLECTOR STANTON, COLBON, Goffey

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>3NA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

LAB CODE N0 79996

PROJECT # - - 4430

STATION # - - - 606

Y Y M M D D

DATE 930902

COLLECTION TIME 1445

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

LAB CODE N0 79996

PROJECT # - - 4430

STATION # - - - 605

Y Y M M D D

DATE 930902

COLLECTION TIME 1440

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH RI

COLLECTOR STANTON Goulet Goffey

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>3VA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

EPA R-1 7500-30

*Unpreserved Sample

LAB CODE **Nº** 79951

PROJECT # - - 4430

STATION # - - - 407

Y Y M M D D

DATE 9 3 0 9 0 2

COLLECTION TIME 1450

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH RI

COLLECTOR STANTON Goulet Goffey

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>3VA</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS Total Dissolved

Cd	<input type="checkbox"/>	Fe	<input type="checkbox"/>	Pb	<input type="checkbox"/>
Cu	<input type="checkbox"/>	Hg	<input type="checkbox"/>	Sn	<input type="checkbox"/>
Cr (T)	<input type="checkbox"/>	Mn	<input type="checkbox"/>	Zn	<input type="checkbox"/>
*Cr (+6)	<input type="checkbox"/>	Ni	<input type="checkbox"/>	Other	

*Unpreserved Sample

LAB CODE **Nº** 87930

PROJECT # - - 4430

STATION # - - - 408

Y Y M M D D

DATE 9 3 0 9 0 2

COLLECTION TIME 1455

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY ☐ . ☐
(micromhos/cm)

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT TRANSFORMER DISPOSAL AREA STATE W. GREENWICH, CT

COLLECTOR STANTON, GUNN, GILLY

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	<input type="checkbox"/>	NH ₃	<input type="checkbox"/>	COD	<input type="checkbox"/>
BOD	<input type="checkbox"/>	NO ₂ + 3	<input type="checkbox"/>	PCB	<input checked="" type="checkbox"/>
TSS	<input type="checkbox"/>	TKN	<input type="checkbox"/>	X-Ray	<input type="checkbox"/>
Turb	<input type="checkbox"/>	T-P	<input type="checkbox"/>	Other	<u>BV4</u>
Organics	<input type="checkbox"/>	O & G	<input type="checkbox"/>		
VOA's	<input type="checkbox"/>				

METALS

Total

Dissolved

Cd ☐
Cu ☐
Cr (T) ☐
*Cr (+6) ☐

Fe ☐
Hg ☐
Mn ☐
Ni ☐

Pb ☐
Sn ☐
Zn ☐
Other _____

LAB CODE **Nº** 87931

PROJECT # - - 4430

STATION # - - - 409

Y Y M M D D

DATE 9 3 0 9 0 2

COLLECTION TIME 1500

SAMPLE TEMP °C ☐

PROBE-D.O. (mg/l) ☐ . ☐

pH - S.U. ☐ . ☐

CONDUCTIVITY (micromhos/cm) ☐ . ☐

SALINITY (0/00) ☐ . ☐

TOTAL DEPTH (ft) ☐

SAMPLING DEPTH (ft) ☐ . ☐

APPENDIX E

Photodocumentation Log

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH, RI



SCENE: AREA 1 FACING SOUTH
FRAME NUMBER: 1 DATE: 09/02/93 TIME:1015 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA 1 FACING NORTH
FRAME NUMBER: 2 DATE: 09/02/93 TIME:1015 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH, RI



SCENE: AREA 1 FACING NORTH
FRAME NUMBER: 3 DATE: 09/02/93 TIME:1015 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA 1 FACING SOUTH
FRAME NUMBER: 4 DATE: 09/02/93 TIME:1015 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH, RI



SCENE: AREA 1 FACING NORTH

FRAME NUMBER: 5 DATE: 09/02/93 TIME:1015 SKY CONDITION: P. CLOUDY

PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON

CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA #2

FRAME NUMBER: 6 DATE: 09/02/93 TIME:1100 SKY CONDITION: P. CLOUDY

PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON

CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH, RI



SCENE: AREA #2 DISCARDED TIRES
FRAME NUMBER: 7 DATE: 09/02/93 TIME:1100 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA #3 RUSTED TRUCK BODY, TRANSFORMER DEBRIS
FRAME NUMBER: 8 DATE: 09/02/93 TIME:1115 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH. RI



SCENE: AREA #3 TRANSFORMER METAL DEBRIS
FRAME NUMBER: 9 DATE: 09/02/93 TIME:1115 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA #3
FRAME NUMBER: 10 DATE: 09/02/93 TIME:1115 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH. RI



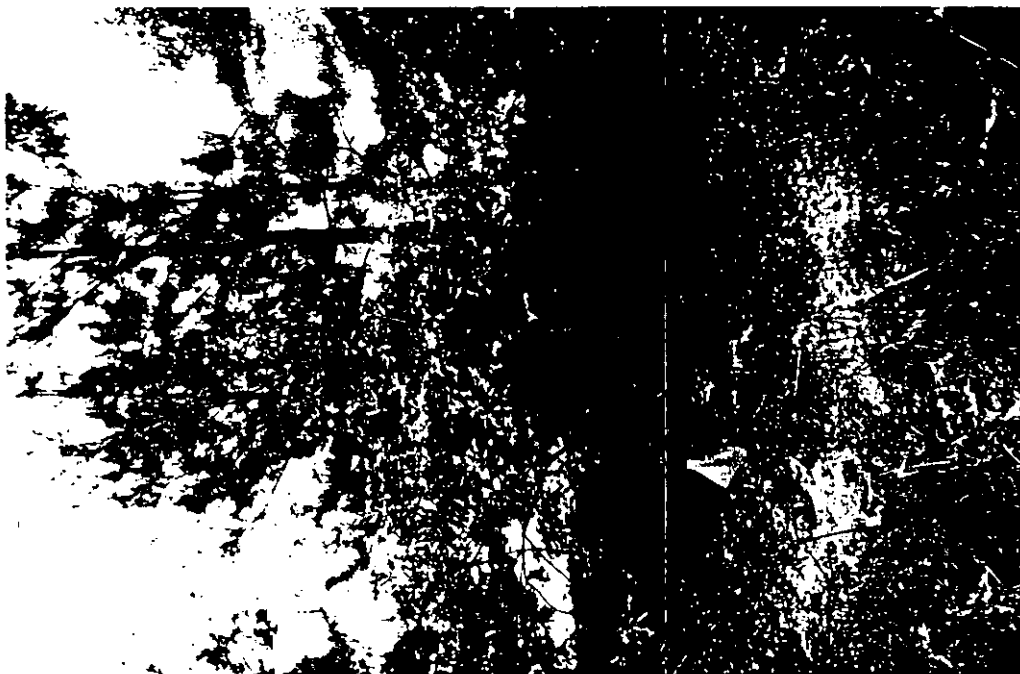
SCENE: AREA #4 TRANSFORMER METAL DEBRIS, RUSTED BARREL, TRASH
FRAME NUMBER: 11 DATE: 09/02/93 TIME:1145 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA #4 TRANSFORMER METAL DEBRIS, TRASH
FRAME NUMBER: 12 DATE: 09/02/93 TIME:1115 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

PHOTOGRAPHY LOG SHEET
TRANSFORMER DISPOSAL AREA • COVENTRY/W.GREENWICH, RI

TOP



SCENE: AREA #5 SAMPLE AREA
FRAME NUMBER: 13 DATE: 09/02/93 TIME: 1200 SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061



SCENE: AREA #1 DARKENED SOIL, STRONG CHEMICAL ODOR
FRAME NUMBER: 14 DATE: 09/02/93 TIME: SKY CONDITION: P. CLOUDY
PHOTO BY: ME STANTON WITNESS(ES): Z.CONLON
CAMERA: OLYMPUS SETTING: AUTO FILM TYPE: 35 MM FILM ROLL: 031061

APPENDIX F

Polychlorinated biphenyl On-Site Screening Results

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ENVIRONMENTAL SERVICES DIVISION
60 Westview Street, Lexington, MA 02173

MEMORANDUM

DATE: September 8, 1993
SUBJ: Transformer Disposal Area, W.Greenwich, RI -PCB Screening Results
FROM: Scott Clifford, ^{pe}Chemist
THRU: Dr. William J. Andrade *WJA* 9/4/93
TO: Mary Ellen Stanton

Project Number: 93199

Date Samples Analyzed: 9/2/93

Reference Book: Clifford Record Log III

Analytical Procedure:

Soils were analyzed using EPA Region I PCB Field Screening Method for Soil and Sediment Samples (Revision 1.0 dated 2/25/92). Approximately 1 gram of sample was weighed into a 4 ml vial. To this was added 200 ul water, 800 ul methanol and 1000 ul hexane. A portion of the hexane extract was analyzed on a Thermo Electron Model 511-06 gas chromatograph equipped with an electron-capture detector and 4' x 1/8" SE-30 column.

Target Compounds: PCB Aroclors 1242, 1254, 1260

Method of Quantitation: Concentrations of PCBs in soil were calculated using the external standard technique.

Quality Control

1. Method Blanks were analyzed daily to check for analytical system interferences. Blanks were analyzed periodically (i.e. after high concentration samples) to check for cross-over contamination.
2. Laboratory duplicates were analyzed once every twenty samples to determine laboratory precision.
3. Performance Evaluation Check Sample was analyzed to determine analytical accuracy.

Discussion

Screening on the Thermo Electron Model 511-06 is used for tentative identification and semi-quantitation of PCBs in soil, oil and sediment samples. This screening technique is not meant to substitute for the CLP PCBs in soil protocol. This screening technique can, however, save costly analysis time when full protocol is not required. In this survey, only target PCB Aroclor 1260 was found and is reported.

Analytical Results

PCB in Soil Screening Summary Values reported on wet weight basis in ug/gm (ppm).

Site Name: Transformer Storage Area, W.Greenwich, RI
Analysis Date: 9/2/93

Compound	PCB A-1260
<u>Sample #</u>	
S-01	130,000F
S-02	330F
S-03	53F
S-04	21,000F
S-05	22,000F
S-06	10UF
S-07	10UF
S-08	28F
S-09	33F
S-10	26F (avg)
S-11	10UF

F - Data has been generated using field screening method. Analytes are tentatively identified and concentrations are quantitative estimates.

U - The material was analyzed for but was not detected. The associated numerical value is the field screening method quantitation limit.

<u>Compound</u>	<u>PCB A-1260</u> (ug/gm)
<u>Sample #</u>	
S-12	10UF
S-13	10UF
S-14	10UF
S-15	10UF
S-16	10UF
S-17	10UF
S-18	10UF
S-19	10UF
S-20	10UF
S-21	10UF
S-22	240F
S-23	3,300F
S-29	10UF
S-30	400F

F - Data has been generated using field screening method. Analytes are tentatively identified and concentrations are quantitative estimates.

U - The material was analyzed for but was not detected. The associated numerical value is the field screening method quantitation limit.

Quality Control 9/2/93

A-1260 PE Check Sample:	<u>Found</u>	<u>True Value</u>	<u>%Recovery</u>
	78 ug/gm	78 ug/gm	100%

Lab Duplicates -	<u>Sample No. S-10</u>	<u>Sample No. S-10 Dup.</u>	<u>Average</u>	<u>RPD*</u>
	25 ug/gm	27 ug/gm	25 ug/gm	0%

* RPD = Relative Percent Difference